

IN THE CLAIMS:

Claim 1 (Currently Amended) A sputtering system for depositing a thin film on a substrate, comprising:

a vacuum chamber;

a support for supporting the substrate in the vacuum chamber;

a target arranged to oppose the support;

a fixed plate formed on a first side of the target; and

a plurality of electromagnets formed having different geometrical group cell patterns on the fixed plate,

wherein at least two of the geometrical group cell patterns have electromagnets of different geometrical shapes, respectively.

Claim 2 (Original): The system according to claim 1, wherein the plurality of electromagnets are individually controlled.

Claim 3 (Previously Presented): The system according to claim 1, wherein the geometrical group cell patterns include first and second group cell patterns that are separately controlled.

Claim 4 (Previously Presented): The system according to claim 3, wherein the first group cell pattern includes at least a first group of the plurality of electromagnets having one of a triangular, pentagonal, and hexagonal array pattern.

Claim 5 (Previously Presented) The system according to claim 4, wherein the second group cell pattern includes at least a second group of the plurality of electromagnets having one of a triangular, pentagonal, and hexagonal array pattern.

Claim 6 (Previously Presented): The system according to claim 5, wherein the first group cell pattern of the plurality of electromagnets is independently controlled from the second group cell pattern of the plurality of electromagnets.

Claim 7 (Previously Presented) The system according to claim 1, wherein the geometrical group cell patterns include first and second group cell patterns that include a matrix array pattern of the plurality of electromagnets.

Claim 8 (Previously Presented) The system according to claim 1, wherein the geometrical group cell patterns include first and second group cell patterns that include a hexagonal array pattern of the plurality of electromagnets.

Claim 9 (Previously Presented): The system according to claim 1, wherein the geometrical group cell patterns include a first cell pattern disposed along an outer perimeter of the fixed plate, and a second group cell pattern disposed within a center portion of the fixed plate.

Claim 10 (Previously Presented): The system according to claim 9, wherein the first and second group cell patterns are individually controlled.

Claim 11 (Previously Presented): The system according to claim 1, wherein the geometrical group cell patterns includes a first group cell pattern disposed along even-numbered rows, and a second group cell pattern disposed along odd-numbered rows.

Claim 12 (Previously Presented): The system according to claim 11, wherein the first and second group cell patterns are individually controlled.

Claim 13 (Previously Presented): The system according to claim 1, wherein the geometrical group cell patterns includes a first group cell pattern disposed in a first matrix arrangement around an outer perimeter of the fixed plate, and a second group cell patterns disposed in a second matrix arrangement different from the first matrix arrangement within a center portion of the fixed plate.

Claim 14 (Previously Presented): The system according to claim 13, wherein the first and second group cell patterns are individually controlled.

Claim 15 (Previously Presented): The system according to claim 13, wherein the second matrix arrangement includes a circular arrangement around the center portion of the fixed plate.

Claim 16 (Previously Presented): The system according to claim 15, wherein the first and second group cell patterns are individually controlled.